

## **GOAL 1: CLEAN AIR**

The air in every American community will be safe and healthy to breathe. In particular, children, the elderly, and people with respiratory ailments will be protected from the health risks of breathing polluted air. Reducing air pollution will also protect the environment, resulting in many benefits, such as restoring life in damaged ecosystems and reducing health risks to those whose subsistence depends directly on those ecosystems.

# PROGRESS TOWARD THE STRATEGIC GOAL AND OBJECTIVES

The Clean Air Act Amendments of 1990 (CAA) provide a nationwide framework for EPA and its partners and stakeholders to reduce air pollution through implementation of a variety of regulatory, market-based, and voluntary programs.<sup>1</sup> The results since 1990 have been impressive, not only because of the tons of pollution reduced or prevented, but also

#### SIX PRINCIPAL POLLUTANTS

Ozone (O<sub>3</sub>)
Particulate Matter (PM)
Carbon Monoxide (CO)
Nitrogen Dioxide (NO<sub>2</sub>)
Sulfur Dioxide (SO<sub>2</sub>)
Lead (Pb)

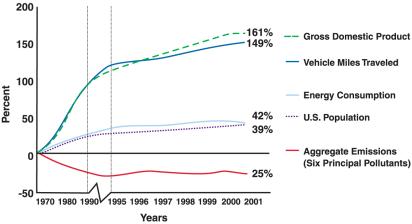
because the programs achieved the results in a cost-effective manner, with the monetized benefits far outweighing

the economic impacts. The extent of the public health benefits also is striking. EPA estimates that on a daily basis the 1990 clean air programs, in combination with the results of the 1970 amendments to the Act, have prevented 600 premature mortalities, 2,000 chronic illnesses, and 75,000 lost workdays.<sup>2</sup>

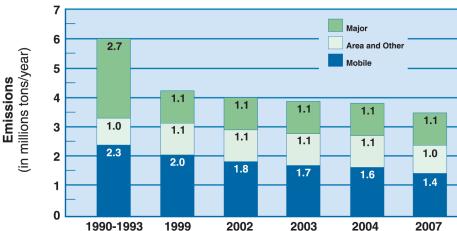
To add to the substantial public health benefits being achieved, EPA is implementing programs that will improve public health in the future. For example, mobile source programs, such as Tier 2 automobile standards and heavy-duty engine and diesel fuel standards, will help a significant number of additional areas meet the National Ambient Air Quality Standards (NAAQS) set to protect public health and improve air quality throughout the country.<sup>3</sup> These programs, when fully implemented, are projected to result in a combined reduction, on a daily basis, of about 30 premature deaths, 20 cases of chronic bronchitis, and 5,600 lost workdays.<sup>4</sup>

EPA and its partners and stakeholders were able to make steady progress toward the Clean Air Goal during a period of economic growth. Since 1970 their combined efforts have reduced aggregate emissions of the six principal pollutants covered by the NAAQS by 25 percent.<sup>5</sup> During the same time period, the U.S. Gross Domestic Product has increased by 161 percent; energy consumption, by 42 percent; and vehicle miles traveled, by 149 percent.<sup>6</sup>

#### **Comparison of Growth Areas and Emission Trends**



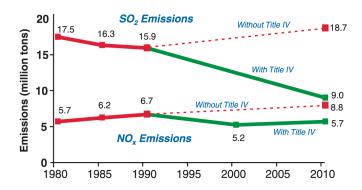
oal 1 - Clean Air



To date, federal rules covering stationary sources, vehicles, fuels, and engines have reduced air toxics by close to 34 percent from the 1993 baseline of 6 million tons. EPA estimates that annual air toxics emissions from stationary sources are nearly 1.5 million tons less in FY 2002 than in 1993 as a result of implementation of Maximum Achievable Control Technology (MACT) standards and 500,000 tons less than in 1993 as a result of implementation of federal mobile source rules. To further reduce air toxics emissions and risk, EPA will begin to focus increasingly on community-specific air toxics problems, working with partners and stakeholders to identify the risk reductions that matter most to local citizens. The National Air Toxics Assessment (NATA), published by EPA in FY 2002, provides a significant source of data to guide additional efforts on more community-based risk reduction activities for air toxics. NATA also supports the need to put in place an air toxics monitoring network that will provide key data to EPA and communities as they develop additional risk reduction strategies and programs.

In FY 2000 EPA's Acid Rain Program met its strategic objective for nitrogen oxides ( $NO_x$ ) under Title IV of the CAA (42 U.S.C. 7651-7661f). The program now is on track to meet its 2010 objective for sulfur dioxide ( $SO_2$ ), which sets a permanent cap on nationwide power plant  $SO_2$  emissions. As a result of efforts by utilities covered under the Acid Rain Program,  $SO_2$  emissions continued to decline from 17.5 million tons in 1980 (baseline) to 10.6 million tons through 2001, while  $NO_x$  emissions were reduced by 2 million tons nationally.<sup>8</sup>

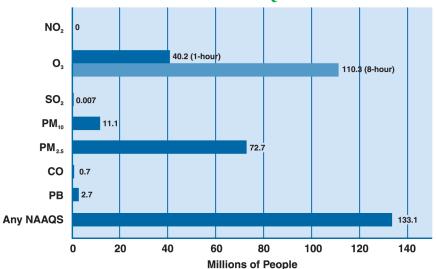
#### Reductions in SO, and NO, Emissions



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## Population of Counties With Air Quality Concentrations Above the NAAQS Levels



Utility, industry, transportation, and other sources still emit more than 170 million tons of pollution into the air each year in the United States, and about 133 million people live in counties where monitored air in 2001 was unhealthy at times because of high levels of at least one of the six principal pollutants for which EPA has set NAAQS. The vast majority of areas that experienced unhealthy air did so because of one or both of two pollutants—ozone and particulate matter (PM).

The Agency's strategies to address the most persistent remaining challenges posed by air pollution in the 21st century include a combination of regulatory, market-based, community-based, and voluntary programs. In general, EPA will carry out those components of the strategies that address emissions from whole industries or from source categories such as power plants or motor vehicles, while state, tribal, and local partners will focus on area-specific problems. In implementing the strategies, EPA will continue to set priorities among activities based on health and environmental risk and will seek cost-effective and flexible solutions to reduce air emissions. The Agency also will use an active consultative process to identify solutions that best meet the collective needs of its partners and stakeholders.

The indicators used in the Clean Air chapter of EPA's draft report on the state of the environment are particularly useful because they focus on longer-term progress and provide context for EPA's FY 2002 annual performance results. The FY 2002 annual performance information complements this report and includes measures of the following:

- Populations attaining the NAAQS, which are based on air quality concentrations.
- Air toxics emission reductions, which are closely correlated to ambient air toxics concentrations.
- SO<sub>2</sub> and nitrogen dioxide emissions from utilities under the Acid Rain Program.

To address the significant remaining challenges, the President proposed the multipollutant Clear Skies legislation. <sup>10</sup> If enacted, the Clear Skies legislation will make considerable advances in reducing power plant emissions by requiring mandatory reductions of SO<sub>2</sub>, NO<sub>x</sub>, and mercury by an average of 70 percent from today's levels. <sup>11</sup> EPA projects that by 2020 human health benefits alone will include 12,000 avoided premature deaths annually and total more than \$93 billion. Early human health benefits are very significant, including \$40 billion in annual benefits by 2010, and more than 6,000 avoided premature deaths. Visibility benefits in national parks and

#### FY 2002 CLEAN AIR PROGRAM RESULTS

- SO<sub>2</sub> emissions continued to decline from 17.5 million tons in 1980 (baseline) to 10.6 million tons through 2001 and NO<sub>x</sub> emissions were reduced by 2 million tons nationally.
- EPA redesignated 17 areas, with a combined population of over 19 million people, to attainment for the NAAQS.
- Air toxics emissions from stationary and mobile sources were reduced by 33.8 percent or 2.02 million tons from the 1993 baseline of 6.0 million tons.
- EPA promulgated 13 additional MACT standards that when fully implemented will reduce air toxics emissions by 20.8 thousand tons annually. EPA also proposed 13 MACT standards.

Source: Air Quality Subsystem; Findings and Required Elements Data System; and Census Bureau, Department of Commerce. See Appendix B.

wilderness areas are projected to be \$3 billion annually. 12 Additional information about Clear Skies, including legislative language and region-specific information about air quality and health benefits, is available at <a href="http://www.epa.gov/clearskies">http://www.epa.gov/clearskies</a>.

As Congress considers the Clear Skies legislation, EPA and its state, tribal, and local partners will continue their progress toward attaining the NAAQS and maintaining air quality in areas that already meet the standards. EPA will develop implementation guidance for meeting the fine particulate (PM<sub>25</sub>) standard through expanding existing state, tribal, and local programs. EPA also will support states, tribes, and local governments in developing innovative, voluntary programs that will help areas achieve early reductions in pollution in the transition from the 1-hour to the 8-hour ozone standard. EPA will continue to implement existing vehicle, engine, and fuel standards, as well as develop additional regulations for selected mobile sources. In FY 2003 EPA expects to propose standards for

heavy-duty, non-road diesel equipment—including construction, mining, industrial, agricultural, and airport equipment. The resultant reduction in pollution will provide important health benefits and emission reductions similar to those of the recent onhighway, heavy-duty diesel rule.

#### FY 2002 PERFORMANCE

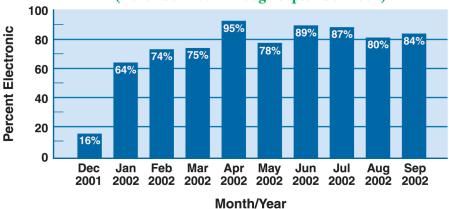
EPA, working with its state, local, and tribal partners along with industry, small businesses, and other federal agencies, made significant progress in FY 2002 toward achieving the Clean Air annual goals. EPA's partners continued to carry out programs for achieving or maintaining the NAAQS, while EPA provided guidance, tools, and resources to help them meet their objectives. EPA continued work on MACT standards and issued mobile source standards for vehicles, fuels, and engines. When implemented, the standards will provide reductions in health and environmental risks from both air toxic and criteria pollutants. The Agency's air toxics work contributes to progress in addressing the management challenge in the air toxics program (Refer to Section III, "Management Accomplishments and Challenges," for further discussion). Lastly, EPA expects utilities regulated under the marketbased Acid Rain Program to achieve or exceed the required reductions for SO<sub>2</sub> and NO<sub>2</sub>.

Selected FY 2002 Clean Air accomplishments that support ongoing EPA programs and initiatives are highlighted below.

#### **Market-based Programs**

EPA's Acid Rain Program, demonstrating the new efficiencies possible through electronic data management systems, implemented the On-line Allowance Tracking System (OATS). The latest innovation in air emissions trading, OATS is a timesaving, system that enables participants in the SO<sub>2</sub> and NO<sub>x</sub> allowance trading markets to record trades directly on the Internet instead of submitting paper forms to EPA for processing. EPA's tracking systems, which currently hold allowances with a combined value of more than \$20 billion, record official SO<sub>2</sub> and NO<sub>3</sub>

# Ratio of Allowance Transfers Recorded Electonically (December 2001 through September 2002)



allowance transfers under existing emission cap and trade programs. Anyone anywhere in the world can participate in the allowance trading market, and hundreds of companies, brokers, and individuals are already engaged in online trading.

#### **Air Quality Index (AQI)**

EPA continued its strong leadership in providing real-time AQI data to the public through the AIRNow program. In FY 2002 the AIRNow program expanded real-time ozone data delivery from 38 to 43 states and increased the number of air quality forecast cities from 165 to 235. AIRNow reaches millions of readers and viewers through EPA's partnership with the Weather Channel, USA Today, and CNN. EPA also began receiving real-time PM<sub>2.5</sub> data and developed sample maps with the expectation of using these data in future forecasting efforts. As part of the PM<sub>2.5</sub> effort, the program went from no monitors reporting in FY 2001 to more than 170 at the end of FY 2002.<sup>14</sup>

Across the country, EPA offices are reaching out to state and local communities and tribes with information about air quality allowing, people to take action to reduce risks when poor air quality is forecast. In New England, EPA implemented an intensive ozone outreach plan during one of the hottest Northeast summers ever. Smog alerts, based on predicted high ozone levels, were provided to children's camps, day care centers, school nurses, and other interested persons. EPA posted the ozone forecast map for the Northeast on the EPA web

site daily; targeted outreach to TV meteorologists, letting them know where to obtain AQI for their areas; and published the air quality forecast in New England newspapers.<sup>15</sup>

#### **Mobile Sources**

In 2002 EPA set emissions standards for several types of previously unregulated recreational vehicles, diesel marine engines, and large industrial spark-ignition engines. EPA expects that the standards, when fully implemented in 2020, will provide an overall 72 percent reduction in hydrocarbon emissions, an 80 percent reduction in NO<sub>2</sub> emissions, and a 56 percent reduction in carbon monoxide. As a result of reducing emissions of hydrocarbons and NO,, which contribute to ozone and PM formation, these controls will improve visibility in national parks and wilderness areas and reduce exposure for people who operate, work with, or are close to these engines and vehicles. The human health benefits of these standards include avoiding about 1,000 premature deaths, preventing 1,000 hospital admissions, reducing asthma attacks by 23,400, and preventing 200,000 days of lost work. In dollars, EPA estimates these health benefits to be worth roughly \$8 billion in 2030.16

EPA's voluntary Diesel Retrofit Program helps state and local agencies to retrofit old, dirty engines to make them run cleaner and to develop model programs to reduce emissions from idling engines. Diesel retrofit is a creative, non-regulatory way to reduce pollution from the existing fleet of engines that use diesel fuel.<sup>17</sup>

The Diesel Retrofit Program, which began just over 2 years ago, currently has commitments from partners in industry, states, and local governments, as well as major fleet owners/ operators, to retrofit over 87,000 diesel engines. These retrofits will result in the elimination of about 26,000 tons of NO<sub>x</sub> and 12,000 tons of PM. To date, 60 projects have been established in 22 states across the country with 20 new commitments in FY 2002 alone.

EPA also issued the first certifications for engine families that complied with the Heavy-Duty Engine Consent Decree, which require engine manufacturers to meet the 2004 diesel engine standards by October 1, 2002.18 These engines met EPA emission limits that are about 30 to 45 percent lower than previous engines of the same model.

#### **Research Contributions**

Clean Air goal research provides a strong scientific basis for policy and regulatory decision making and explores emerging problem areas through a coordinated and comprehensive research program. Both EPA and its partners use the results of this peer-reviewed research in carrying out their programs.

EPA described the biological mechanisms that may underlie the reported effects of PM in the Utah Valley, where exposure data were collected before and after the closing of a local steel mill and again after it was reopened. This report correlates, for the first time, pulmonary effects to PM health outcomes observed in epidemiological studies. This information will strengthen the scientific basis for the reassessment of the PM NAAQS.

In FY 2002 EPA also provided critical information to environmental decision makers on the effects of PM on humans believed to be most susceptible to adverse effects, such as the elderly and those with lung disease. For example, state-of-the-art methods were used to measure the effects of exposure to concentrated ambient PM on various subpopulations of human volunteers and animals. These studies will help identify the components of PM producing

toxicity and other factors, such as existing disease, that may affect toxicity.19

In FY 2002 EPA published the peerreviewed report, "Health Assessment Document for Diesel Engine Exhaust," which documents the public health implications of current exposure to diesel engine exhaust and further supports ongoing work in the areas of PM, particularly diesel exhaust.<sup>20</sup> The report states that long-term exposure to diesel engine exhaust is likely to be a lung carcinogen hazard to humans, as well as to have non-cancer effects on the respiratory system. The report also pinpoints diesel exhaust as a likely allergy and asthma trigger.

#### **Program Evaluation**

Appendix A contains descriptions of program evaluations completed in FY 2002 that support the overall Clean Air Goal. No program evaluations focused specifically on FY 2002 performance.

### STATE, LOCAL, AND TRIBAL PARTNER **CONTRIBUTIONS**

State, tribes, and local agencies all play crucial roles in working with EPA toward the goal of cleaner air and contributed significantly to achieving the Agency's FY 2002 accomplishments. These EPA partners carry out extensive program implementation activities, including developing state implementation plans (SIPs) and tribal implementation plans (TIPs), permitting major and minor pollution sources, monitoring air quality, providing education and outreach, and carrying out compliance and enforcement activities. The EPA partners also identify and implement innovative ways to help reduce health and environmental risks in specific areas. Often these innovations are the catalysts for similar programs elsewhere. The contributions described are just a few of the innovative, areaspecific approaches that EPA's partners initiated in FY 2002.

#### **State and Local Partner Contributions**

The Hunts Point Cooperative Market in the Bronx, New York, is the site of the first operational anti-idling advanced electrification project in the country. The Hunts Point Market, in partnership with Sustainable South Bronx and the New York Power Authority, installed 28 truck electrification bays during Fall 2002. The Market delivers close to 80 percent of the New York metropolitan area's produce and 40 percent of the region's meat. Each day, while shipments are loaded and offloaded, hundreds of diesel vehicles idle, creating exhaust fumes that pose a serious health risk to the Hunts Point residential community of about 9,000 people. The truck/trailer anti-idling devices allow drivers to power cab/sleeper compartment climate control systems and appliances, as well as refrigerated trailer units, without running their engines. All idling emissions are eliminated while the electrification system is in use, and local air pollution impacts are traded off with emissions from the regional power system. At full operation, the 28 bays are expected to eliminate over 15 tons of NO<sub>2</sub>, 2,000 tons of carbon dioxide, and nearly a ton of toxic pollutants annually with the potential to cut fuel costs by more than \$3,000 and maintenance costs by more that \$1,500 annually per vehicle.21

In FY 2002 the City of Cleveland, Ohio, took charge of and expanded the Cleveland Air Toxics Pilot Project begun by EPA to show local, voluntary actions can play a significant role in improving the environment and protecting public health.<sup>22</sup> Cleveland plans to continue and expand many of the EPA projects, including replacing dirty off-road diesel equipment with cleaner diesel equipment, developing a local toxic emissions inventory, completing an anti-idling campaign for motor vehicles, expanding industry agreements to the entire auto refinishing and electroplating sectors, and supporting an effort to reduce indoor air pollution in city schools and to carry out a smoke-free home pledge drive. The Regional Transit Authority (RTA) is inaugurating 225 new buses that will use ultra-low-sulfur diesel fuel. The RTA already operates a number of environmentally friendly vehicles—buses that use

compressed natural gas and rail cars that run on electricity.<sup>23</sup>

In Boston in FY 2002 over 200 school buses will be fueled with ultra-low-sulfur diesel fuel. Over half the buses will be fitted with special pollution control devices that reduce emissions of PM by 90 percent. As a follow-up, EPA will monitor air quality at the bus depot before and after the retrofits to help quantify the local air quality benefit of the project. New England states have partnered with EPA to reduce PM and other emissions from diesel vehicles through retrofit efforts and anti-idling policies. As a result of state and EPA efforts, several major construction projects in New England will also require the retrofitting of diesel construction equipment to minimize emissions.<sup>24</sup>

In the Chicago metropolitan region, the Clean Air Counts Campaign<sup>SM</sup> convened a diverse group of stakeholders interested in working together to create voluntary strategies for attaining the NAAQS, while at the same time achieving community development goals. The Illinois EPA worked with the U.S. EPA to quantify the emission reduction potential of various strategies developed by stakeholders to determine what voluntary actions were needed. As a result of these efforts, 34 public and private organizations and 7 communities across the Chicago metropolitan area are implementing voluntary, measurable emission and energy use reduction programs. In FY 2002 the Campaign's accomplishments included 7 gas can exchange events throughout the metropolitan area, reducing 4 tons/year of volatile organic compounds (VOC); a lawn mower buyback program exchanging 180 two- and four- stroke mowers for rebates on electric and push mowers, reducing 1.5 tons/year of VOC; and a locomotive idling project on 7 switchers, saving 16,000 gallons of fuel/year/locomotive, and reducing 5 tons of NO\_/year/locomotive and reducing 177 tons CO<sub>2</sub>/year/locomotive.<sup>25</sup>

In FY 2002 the Texas Commission on Environmental Quality and local environmental groups established a voluntary program to encourage early action to reduce levels of urban smog. Early 8-hour air quality plans are

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developed through a compact between local, state, and EPA officials for areas that are in attainment of the 1-hour ozone standard, but are close to or monitor levels in excess of the 8-hour standard. The Early Action Compact plans, tailored to local needs and driven by local decisions, are designed to develop and implement control strategies, account for growth, and achieve and maintain the 8-hour ozone standard. This approach offers a way to achieve emission reductions earlier than required by EPA's expected 8-hour implementation rulemaking, while providing fail-safe provisions for the area to revert to the traditional SIP process if specific milestones are not met.<sup>26</sup>

#### **Tribal Contributions**

In FY 2002 tribes continued to increase their capacity for carrying out air pollution programs. One of the most significant accomplishments in the Clean Air goal was the establishment of the National Tribal Air Association (NTAA).<sup>27</sup> NTAA's goals are to help tribes participate more effectively in air policy development and decision making, much like the State and Territorial Air Pollution Program Administrators (STAPPA) does for states and the Association of Local Air Pollution Control Officials (ALAPCO) does for local programs. NTAA will bring national representation to tribal air programs.

While many tribes are only beginning basic air quality assessments, attending training, developing inventories, and conducting preliminary monitoring, others are beginning to develop more advanced air programs. Four tribes—the Mohegan, Pequot, St. Regis Mohawk, and Gila River—are working toward adopting TIPs, which are similar to SIPs. Another 10 tribes have asked for and received eligibility determinations to implement parts of the CAA. In FY 2002 the Mohegan Tribe of southern

Connecticut submitted the country's first TIP. Once approved by EPA, this TIP will represent an important milestone in tribal air pollution control program development.

The Puyallup Tribe in the state of Washington established a diesel retrofit project for the tribe's school buses. Through this first-time project, the Puyallup will install advanced emission control technologies on about 20 to 30 buses in the fleet and will use ultra-low-sulfur diesel fuel, thereby reducing particulate levels in bus exhaust by more than 90 percent.<sup>28</sup>

## ASSESSMENT OF IMPACTS OF FY 2002 PERFORMANCE ON FY 2003 ANNUAL PERFORMANCE PLAN

Adjustments to the FY 2003 Annual Performance Goals (APGs) under Goal 1, which are documented in the FY 2004 President's Budget,<sup>29</sup> reflect FY 2002 performance. In particular, in FY 2002 EPA missed targets for several of the NAAQS APGs for different reasons, ranging from uncertainty among some states over how areas will be designated under the revised 8-hour ozone standard and under the new PM<sub>25</sub> standard, to underestimating the time states required to submit a redesignation request and receive approval. An additional reason some areas do not request redesignation is the loss of federal funding from the Congestion and Mitigation Air Quality Program. EPA and the Department of Transportation are jointly working on adjusting the funding formula to eliminate the current disincentive to request redesignation.

EPA will make adjustments to the FY 2003 targets where EPA and the states underestimated the time required to complete and submit a redesignation request and receive approval.

# Goal 1 - Clean Air

## Goal 1: Clean Air

**EPA Total:** 

Goal 1 Share of Total:

Goal 1:

FY 2002 Obligations (in thousands):

\$9,447,202

\$588,190

6.2%

**Summary of FY 2002 Annual Performance Goals** 

2 Goals Met 2 Goals Not Met 3 Data Lags

A description of the quality of the data used to measure EPA's performance can be found in Appendix B.

FY 2002 Costs (in thousands):

 EPA Total:
 \$7,998,422

 Goal 1 Costs:
 \$588,808

 Goal 1 Share of Total:
 7.4%

Refer to page I-13 of the Overview (Section I) for an explanation of difference between obligations and costs.

Refer to page IV-10 of the Financial Statements for a consolidated statement of net cost by goal.

# Annual Performance Goals (APG) and Measures FY 1999–FY 2002 Results

Strategic Objective: Reduce the Risk to Human Health and the Environment By Protecting and Improving Air Quality So That Air Throughout the Country Meets National Clean Air Standards By 2005 for Carbon Monoxide, Sulfur Dioxide, Nitrogen Dioxide, and Lead; By 2012 for Ozone; and By 2018 for Particulate Matter (PM). To Accomplish This in Indian Country, the Tribes and EPA Will, By 2005, Have Developed the Infrastructure and Skills to Assess, Understand, and Control Air Quality and Protect Native Americans and Others From Unacceptable Risks to Their Health, Environment, and Cultural Uses of Natural Resources.

FY 2002 Cost (in thousands): \$463,012 (78.6% of FY 2002 Goal I Total Costs)

Progress Toward Strategic Objective: EPA, working with its state, local, and tribal partners as well as industry, small businesses, and other federal agencies, continues to make steady progress toward the National Ambient Air Quality Standards (NAAQS) objective. Since 1970 aggregate emissions of the six principal pollutants tracked nationally have been cut 25%. These emission reductions are a result of effective implementation of the Clean Air Act (CAA), as well as improvements in industrial technology, state and local initiatives, and goodwill and voluntary efforts on the part of the general public. During this same time period, the U.S. Gross Domestic Product increased 161%, energy consumption increased 42%, and vehicle miles traveled increased 149%. In spite of these impressive gains, there is still considerable work to be done with ozone and particulate matter as the 8-hour ozone and fine particulate (PM<sub>2.5</sub>) standards are implemented. Voluntary programs will help areas achieve early reductions as they transition from the 1-hour to 8-hour ozone standard. Implementation guidance will also be developed for the PM<sub>2.5</sub> standard. For carbon monoxide (CO), lead, and sulfur dioxide (SO<sub>2</sub>), there are few areas not monitoring clean air. For nitrogen dioxide (NO<sub>2</sub>), the country meets the standard.

APG 1	Reduce Ozone and Ozone Precursors	Planned	Actual
FY 2002	Maintain healthy air quality for 41.7 million people living in monitored areas attaining the ozone standard; certify 10 areas of the remaining 55 nonattainment areas have attained the 1-hour NAAQS for ozone, thus increasing the number of people living in areas with healthy air by 2.5 million. Goal Not Met. ⇒Corresponds with FY 2002 NEPPS Core Performance Measure (CPM).	41.7 M 10 areas 2.5 M	41.7 M 1 area 326,000
	Performance Measures		
	<ul> <li>Tons of VOCs Reduced from Mobile Sources.</li> <li>Tons of NO<sub>x</sub> Reduced from Mobile Sources.</li> </ul>	1,755,000 1,319,000	1,755,000 1,319,000
FY 2001	Same Goal, different targets. Goal Not Met.	35.1 M 5 1.9 M	38.2 M 3 areas 3.5 M
FY 2000	Maintain healthy air quality for 33.4 million people living in 43 areas attaining the ozone standard. Goal Met.	33.4 M	33.4 M
FY 1999	Eight additional areas currently classified as non-attainment will have the 1-hour ozone standard revoked because they meet the old standard. Goal Met.	8	10 areas

**FY 2002 Result:** EPA maintained healthy air quality for 41.7 million people living in monitored areas attaining the ozone standard and certified 1 area of the remaining 55 nonattainment areas have attained the 1-hour NAAQS for ozone, thus increasing the number of people living in areas with healthy air by 326,000.

The Cincinnati area is composed of two parts, Kentucky and Ohio. The Kentucky part of the Cincinnati area was approved for redesignation to attainment in FY 2002, but the final approval of the Ohio part (1,514,000 population) did not occur in FY 2002 as originally planned. The Portland, Maine area (488,000) was expected to redesignate but violated the NAAQS in the summer of 2002 and

now does not meet the requirement of 3 years of clean air quality data. The remaining areas targeted for redesignation to attainment were the areas previously revocated for the 1-hour ozone standard. The states with these areas have chosen not to redesignate and wait for the implementation guidance for the new 8-hour ozone standard. If a state redesignated the area for the 1-hour standards, it would be required to have a maintenance plan for the area and would likely lose a portion of its Congestion and Mitigation Air Quality funding.

APG 2	Reduce Particulate Matter	Planned	Actual
FY 2002	Maintain healthy air quality for 3.4 million people living in monitored areas attaining the particulate matter (PM) standards; increase by 3.7 million the number of people living in areas with healthy air quality that have newly attained the standard. Goal Not Met.  Corresponds with FY 2002 NEPPS CPM.	3.4 M 3.7 M	3.4 M 2.7 M
	Performance Measures  - Areas redesignated to attainment.  - Tons of PM-10 Reduced from Mobile Sources.  - Tons of PM <sub>2.5</sub> Reduced from Mobile Sources.	6 areas 23,000 17,250	4 areas 23,000 17,250
FY 2001	Same Goal, different targets. Goal Met.	1.276 M 60,000	1.189 M 2.249 M
FY 2000	Same Goal, different targets. Goal Met.	1.2 M 60,000	1.2 M 75,800
FY 1999	Deploy particulate matter 2.5 ambient monitors including mass, continuous, speciation and visibility resulting in a total of 1,500 monitoring sites. Goal Met.	1,500	1,110

**FY 2002 Result:** EPA maintained healthy air quality for 3.4 million people living in monitored areas attaining the PM standards and increased by 2.7 million the number of people living in areas with healthy air quality that have newly attained the standard.

EPA had expected six areas with a total population of 3.7 million to be redesignated to attainment for PM in FY 2002. Four areas were redesignated with a total population of 2.7 million. The status of the two additional areas is that (1) Aspen, Colorado redesignation will not be final until early FY 2003, and (2) Jackson County (Medford), Oregon will not redesignate until FY 2004 because the state did not submit the maintenance plan as scheduled.

APG 3	PM Effects Research	Planned	Actual
FY 2002	Provide data on the health effects and exposure to particulate matter (PM) and provide methods for assessing the exposure and toxicity of PM in healthy and potentially susceptible subpopulations to strengthen the scientific basis for reassessment of the NAAQS for PM. Goal Met.		
	Performance Measures		
	<ul> <li>Report on the effects of concentrated ambient PM on humans and animals believed most susceptible to adverse effects (e.g., elderly, people with lung disease, or animal models of such diseases).</li> </ul>	1	1
	<ul> <li>Report on animal and clinical toxicology studies using Utah Valley particulate matter (UVPM) to describe biological mechanisms that may underlie the reported epidemiological effects of UVPM.</li> </ul>	1	1
FY 2001	Same Goal, different targets. Goal Not Met.		
	Performance Measures		
	- Complete PM longitudinal panel study data collection and report exposure data.	1	1
	<ul> <li>Report on health effects of concentrated ambient PM in healthy animals and humans, in asthmatic and elderly humans, and in animal models of asthma and respiratory infection.</li> </ul>	1	1
	- Final PM AQCD completed.	1	0
FY 2000	Same Goal, different targets. Goal Met.		
	Performance Measures		
	- Hold CASAC Review of draft PM AQCD.	9/30/00	9/30/00
	- Longitudinal Panel Study on exposure of susceptible sub-populations to PM.	1	1
	- PM Monitoring Study Data.	9/30/01	9/30/00
	- Baltimore Study on Response of Elderly to PM.	1	1
FY 1999	Identify and evaluate at least two plausible biological mechanisms by which PM causes death and disease in humans. Goal Met.	2	2

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**FY 2002 Result:** To strengthen the scientific basis for reassessment of the NAAQS for PM, EPA provided data on the health effects of and exposure to PM and provided methods for assessing the exposure and toxicity of PM in healthy and potentially susceptible subpopulations. EPA has made significant progress in assessing the health effects of ambient PM. Through coordinated studies in the field (retirement homes in Baltimore and Fresno) and in the laboratory evaluating human subjects and animal models, investigators have ascertained that there are likely cardiovascular implications of PM exposure.

APG 4	Reduce CO, SO <sub>2</sub> , NO <sub>2</sub> , Lead	Planned	Actual
FY 2002	Maintain healthy air quality for 36.7 million people living in monitored areas attaining the carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), and lead standards; increase by 16 million, the number of people living in areas with healthy air quality that have newly attained the standard. Goal Met.  Corresponds with FY 2002 NEPPS Core Performance Measure (CPM).	36.7 M 16 M	36.7 M 16.5 M
FY 2001	Same Goal, different targets. Goal Not Met.	31.1 M 13.2 M	36.3 M 0.4 M
FY 2000	Same Goal, different targets. Goal Met.	27.7M 1.1 M	27.7M 3.41 M
FY 1999	Certify that 14 of the 58 estimated remaining nonattainment areas have achieved the NAAQS for carbon monoxide, sulfur dioxide, or lead. Goal Met.	14	13

**FY 2002 Result:** EPA maintained healthy air quality for 36.7 million people living in monitored areas attaining the CO, SO<sub>2</sub>, NO<sub>2</sub>, and lead standards and increased by 16.5 million the number of people living in areas with healthy air quality that have newly attained the standard. EPA exceeded its target of 8 redesignations by 4, and its population target by an additional 500,000 people.

Strategic Objective: By 2020, Eliminate Unacceptable Risks of Cancer and Other Significant Health Problems From Air Toxic Emissions for at Least 95% of the Population, With Particular Attention to Children and Other Sensitive Subpopulations, and Substantially Reduce or Eliminate Adverse Effects on Our Natural Environment. By 2010, the Tribes and EPA Will Have the Information and Tools to Characterize and Assess Trends in Air Toxics in Indian Country.

FY 2002 Cost (in thousands): \$105.133 (17.9% of FY 2002 Goal | Total Costs)

Progress Toward Strategic Objective: EPA is on track to meeting this objective. When all the Maximum Achievable Control Technology (MACT) rules are fully implemented in addition to efforts by states and industry, toxic emissions from large industrial facilities will decrease by 1.7 million tons, or 63%. EPA is making steady progress in reducing emissions and the associated health risks from air toxics by reducing toxic emissions from industrial sources and reducing emissions from vehicles and engines through new emission standards and cleaner-burning gasoline. EPA is also working extensively with the tribes to build capacity. Through FY 2002 EPA estimates, using the Emissions Modeling System for Hazardous Air Pollutants (EMS-HAP) modeling tool, air toxics emissions nationwide from stationary and mobile sources combined have been reduced by 33.5% from the adjusted 1993 levels. (Based on updated inventory data in the 1996 National Toxics Inventory (NTI), EPA has adjusted the 1993 baseline to 6.0 million tons.)

EPA issued the Integrated Urban Air Toxics Strategy in 1999 which identified the Hazardous Air Pollutants (HAPS) that pose the greatest threat in the largest number of urban areas and the area source categories that emit these pollutants. In 2002, EPA published the National Air Toxics Assessment (NATA) that lays the groundwork for developing the state, local, and tribal component of the overall toxics strategy. NATA will help EPA, states, local areas, and communities address emissions issues that are of concern to a specific area. EPA is beginning to provide information to states and communities through case examples, documents, web sites, and workshops on tools to help them in conducting assessments and identifying risk reduction strategies. This approach puts the tools in the hands of communities who are then able to prioritize risk concerns locally. As tribal capacity increases, they too will begin to benefit from the availability of these tools.

APG 5	Reduce Air Toxic Emissions	Planned	Actual
FY 2002	Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 5% from 2001 (for a cumulative reduction of 40% from the 1993 level of 4.3 million tons per year). Data Lag.   ➡Corresponds with FY 2002 NEPPS CPM.	5%	data available in 2004
FY 2001	Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 5% from 2000 (for a cumulative reduction of 35% from the 1993 level of 4.3 million tons per year). Data Lag.	5%	data available in 2004
FY 2000	Air toxic emissions nationwide from both stationary and mobile sources combined will be reduced by 3% from 1999 (for a cumulative reduction of 30% from the 1993 levels of 4.3 million tons). Data Lag.	3%	data available in 2004
FY 1999	Reduce air toxic emissions by 12% in FY 1999, resulting in cumulative reduction of 25% from 1993 levels. Data Lag.	12%	data available in 2003

**FY 2002 Result:** Air toxics emissions nationwide from stationary (major and area) mobile sources are estimated to have been reduced by 1.5% or 90,000 tons from 2001, for a cumulative reduction of 33.5% or 2,028,000 tons from the adjusted 1993 level of 6.0 million tons. EPA expects that final estimated data for FY 2002 will be available in 2004 when the 2002 NTI is completed.

## Strategic Objective: By 2005, Reduce Ambient Nitrates and Total Nitrogen Deposition to 1990 Levels. By 2010, Reduce Ambient Sulfates and Total Sulfur Deposition By Up to 30% From 1990 Levels.

FY 2002 Cost (in thousands): \$20,663 (3.5% of FY 2002 Goal I Total Costs)

**Progress Toward Strategic Objective:** EPA's Acid Rain Program met its strategic objective under Title IV of the CAA Amendments in FY 2000 for nitrogen oxide  $(NO_x)$  emissions and is on track to meet its 2010 objective for  $SO_2$ , which sets a permanent cap on the total amount of  $SO_2$  that can be emitted by power plants nationwide. As a result of efforts by utilities covered under the Acid Rain Program,  $SO_2$  emissions continued to decline from 17.5 million tons in 1980 (baseline) to 10.6 million tons through 2001, while  $NO_x$  emissions were reduced by 2 million tons nationally.

APG 6	Reduce SO <sub>2</sub> Emissions	Planned	Actual
FY 2002	Maintain or increase annual $SO_2$ emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress toward achievement of Year 2010 $SO_2$ emissions cap for utilities. Data Lag.	5M	data available in 2003
FY 2001	Maintain annual reduction of approximately 5 million tons of $SO_2$ emissions from utility sources from 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress towards achievement of Year 2010 $SO_2$ emissions cap. Goal Met.	5M	6.67M
FY 2000	5 million tons of ${\rm SO_2}$ emissions from utility sources will be reduced from the 1980 baseline. Goal Met.	5M	6.3M
FY 1999	Maintain 4 million tons of SO <sub>2</sub> emissions reduction from utility sources. Goal Met.	4M	5.04 M

**FY 2002 Result:** EPA is on track to meet this goal. End-of-year 2002 data will be available in late 2003 to verify that an annual SO<sub>2</sub> emissions reduction of approximately 5 million tons from utility sources has been maintained or increased during 2002, making progress toward achievement of the year 2010 SO<sub>2</sub> emission cap for utilities. (Annual progress in SO<sub>2</sub> emission reductions under the Title IV Acid Rain Program is measured and reported on a calendar year, not fiscal year, basis.)

FY 2001 Result Available in FY 2002: In calendar year 2001,  $SO_2$  emissions for all Title IV affected utility units totaled 10.63 million tons, representing an annual emission reduction of more than 6.5 million tons from the 1980 baseline. In 2001  $SO_2$  emissions dropped by approximately 5%, or 570,000 tons, from 2000 levels.

APG 7	Reduce NO <sub>x</sub> Emissions	Planned	Actual
FY2002	Two million tons of $\mathrm{NO_x}$ from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments. Data Lag.	2M	data available in 2003
FY 2001	Two million tons of nitrogen oxides $(NO)_x$ from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the Clean Air Act Amendments. Goal Met.	s 2M	2M
FY 2000	Two million tons of $NO_x$ emissions from coal-fired utility sources will be reduced from the levels before implementation of Title IV of the Clean Air Act Amendments. Goal Met.	2M	2M
FY 1999	Maintain 300,000 tons of $NO_x$ reduction from coal-fired utility sources. Goal Met.	300,000	420,000

**FY 2002 Result:** EPA is on track toward this goal of maintaining or increasing the annual  $NO_x$  emission reduction goal of 2 million tons from levels that would have been emitted without implementation of Title IV of the CAA Amendments.

FY 2001 Result Available in FY 2002: Program achieved goal of reducing annual NO<sub>x</sub> emissions from coal-fired utility sources by 2 million tons from levels that would have been emitted without implementation of Title IV of the CAA Amendments.

Goal 1 - Clean Air

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#### **Notes:**

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